Telex

User Instructions

CE
FC

Stratus 50-D
Active Noise Reduction Headset

TELEX®

Figure 1
Stratus Reference View

General Description

The Telex Stratus 50-D is a medium-weight, active noise-reduction headset with an amplified, noise-canceling, electret microphone. It provides up to 25+dB digital tonal noise reduction of engine and blade noise, up to 15+dB of analog broadband noise reduction, and 29+dB of passive noise reduction. At 90 Hz the accumulative total is 50+dB of noise reduction.

This device complies with part 15 of the FCC Rules, Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Design Features (See Figure 1)

Fit and Comfort

The Stratus 50-D incorporates unique features that allow the user to "custom fit" the headset for comfortable operation. Among the features is a headband design that distributes ear cushion pressure evenly over the entire ear with no pressure points. A detented slide adjustment on the headband allows the ear cup to be easily raised or lowered for proper fit. Contributing to the comfort fit is a yoke design that allows the ear cup to pivot in two planes assuring proper performance to the head.

To adjust ear cup pressure, a patented "Comfort Cam™" is rotated to one of three tension settings. The last component in the fit and comfort is the 1" cushion made from heat sensitive slow recovery foam which will conform to your head to provide a perfect seal while spreading the weight over a large area eliminating pressure points.

Boom Microphone

The Stratus 50-D utilizes an electric noise-canceling microphone to eliminate unwanted cabin noise from entering the communication system. To assure proper operation the mic must be positioned perpendicular to the mouth close to the lips, slightly off center to the mouth. To facilitate pilot/co-pilot wearing, the boom rotates up to allow the boom to be worn on the left or right side. To minimize windscreen loss, "teeth" are designed into the mic housing to securely hold the windscreen in place.

Cordage and Plugs

The Stratus 50-D uses shielded cables to protect against RFI (Radio Frequency Interference) and EMF (Electro Magnetic Frequency). Strain relief is added to the cords and plugs to provide protection from wear and tear resulting from normal usage. Separate receiver and microphone plugs are provided as standard. The receiver plug is set up for stereo usage but a switch on the cordage controls stereo/mono operation.

A separate power cord is provided to allow aircraft power (via cigarette lighter adapter) to plug into the battery module on the headset cord. This will accommodate aircraft power from 8-32 Vdc.

Microphone Bias Voltage Requirements

The boom microphone operates on a voltage of 8-16 VDC. Output voltage is 50 ohms (Designed for radio input impedances from 50-600 ohms). If you are uncertain whether your avionics equipment meets this requirement, consult the avionics equipment manufacturer.

Headset Power

The headset will operate with either 4 AA batteries or panel power from 8-32 Vdc.

Panel Power Option

An optional power cord is provided for use in negative ground electrical systems only. Do not attempt to use with positive ground electrical systems. The power cord is designed to connect the battery module to the aircraft power via the cigarette lighter jack.

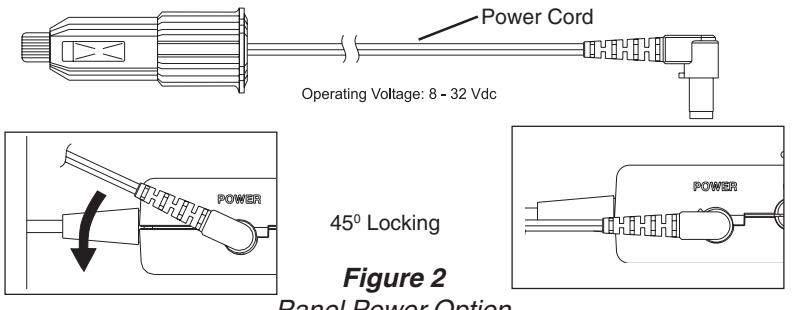

Figure 2
Panel Power Option

Battery Power

The battery module requires 4 AA Batteries. Alkaline batteries are recommended for best performance. Do not use nickel-cadmium rechargeable batteries or lithium batteries.

1. Slide the battery door down in the direction of the arrow, then up to rotate the battery door (Figure 3).
2. Place the batteries into the battery module as shown.
3. Slide the battery door back into place.

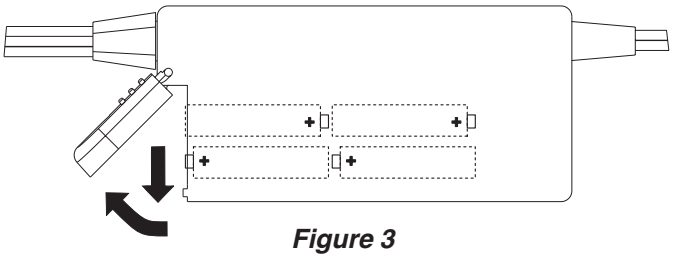

Figure 3
Battery Installation

Headset Operation

1. Connect the headset as shown in Figure 4. Set the MONO/STEREO headphone switch to match the type of sound system in your aircraft. If the headset is set for stereo and the intercom is set for mono, sound will only come out of one earcup.

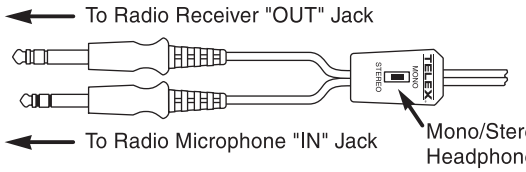

Figure 4
Headset Connections

2. Rotate the entire boom overhead to wear the microphone on either the right or left side of the head (See Figure 5).

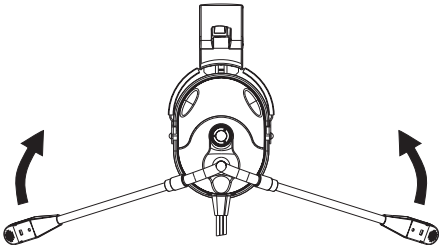

Figure 5
Microphone Placement

3. Reshape the boom so that the microphone will be in front of the mouth.
4. For best noise cancellation, position the microphone as close to the mouth as possible and speak in a normal voice (Figure 7).
5. **For mic replacement**, press the release catch and carefully pull out the mic element. Avoid pulling the connecting wires (Figure 6).

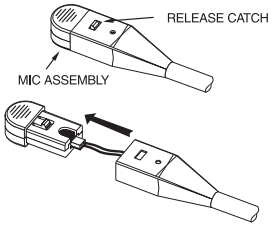

Figure 6
Mic Element Removal

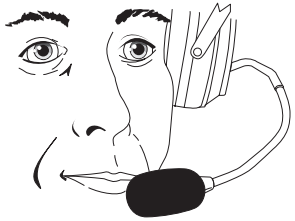

Figure 7
Mic Placement

Headset Operation (Cont.)

6. With the headband resting securely on the top of the head, check that the ear cups are centered over the ears. Reposition them if necessary by moving the headband sliders up or down (See Figure 9 on the next page). Proper performance depends on proper fit of the headset as described below.

7. **Headband Pressure Adjustments:**

   There are three pressure settings. Increasing the pressure will improve the seal between the earcup and the head for greater noise reduction. To change the pressure setting, remove the headset and fold the earcup inward as shown in Figure 8, then rotate the Comfort Cam^{tm} to the desired setting. Repeat for both earcups. Both sides of the headband should be set to the same pressure setting to keep the headband properly centered on the head.

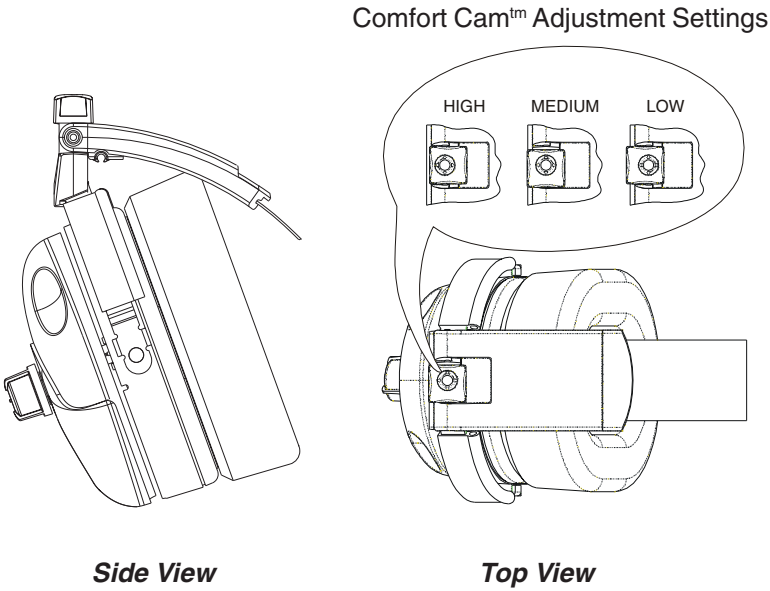

Figure 8
Headband Pressure Adjustment

Headset Operation (Cont.)

8. Headband Size Adjustment

To adjust the headband size, move the earcup sliders up or down on the headband (Figure 9). Size is properly adjusted when the earcups are centered over the ears. It is important to adjust both sides of the headband the same to keep the headband and pad properly centered over the head.

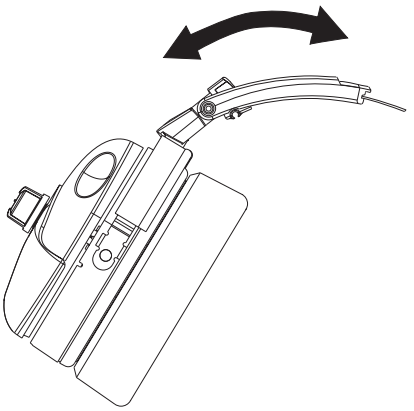

Figure 9
Headband Size Adjustment

9. Volume Adjustment

When the microphone is worn on the left side, volume is increased by rotating the top of the volume controls toward the front of the head. Control operation is reversed when the microphone is worn on the right side (Figure 10).

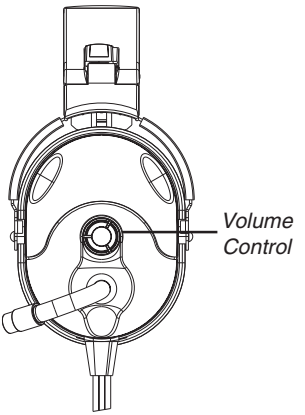

Figure 10
Volume Adjustment

Stratus Controls

Power

Switch the ON/OFF button to turn the Stratus on or off. Green LED indicates power on.

Low Battery

Red LED indicates 20% or less battery life remaining.

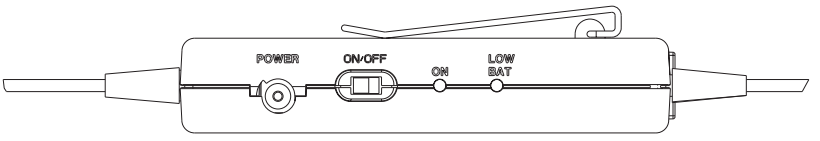

Figure 11
Stratus DSP Controller

Microphone Gain Adjustment

The microphone gain has been factory-adjusted to the nominal level required for FAA certification, and it should normally not require readjustment. Any changes to the mic gain should be done by a qualified avionics technician. To access the gain trimmer, insert a small flat-blade screwdriver through the access hole in the mic assembly. Clockwise rotation of the trimmer increases gain.

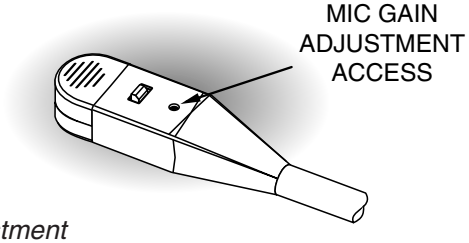

Figure 12
Microphone Gain Adjustment

Ear Cushion Replacement

To remove an old ear cushion, simply grasp it and pull it off the earcup. To install a new ear cushion, start at the top of the earcup. Place the flap on the back of the ear cushion over the lip along the top of the earcup. Then, pull the bottom of the ear cushion down over the lip at the bottom of the earcup.

Wiring Diagram

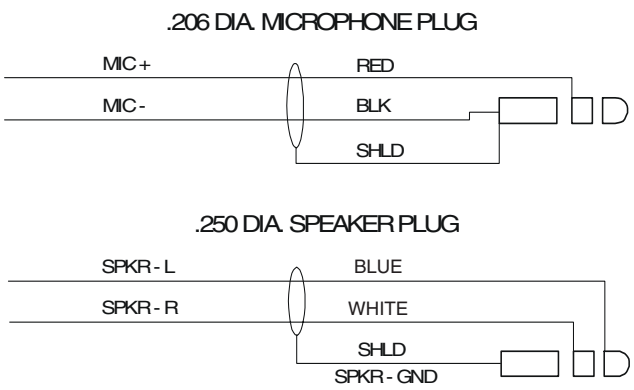

Figure 13
Wiring Diagram for Fixed-Wing Version

Specifications

Receivers:

Type: Dynamic

Frequency Response: 50 Hz - 10 kHz

Sensitivity: 95 ± 5 dB SPL (1 kHz, 1 mW input)

Impedance (Max. Volume):

Stereo.....300 ohms per side

Monaural.....150 ohms

Headset Power: 4AA Batteries or Panel Power from 8-32 Vdc

Microphone and Amplifier:

Element Type: Noise-canceling electret

Frequency Response: 100 Hz - 3.5 kHz

Sensitivity: -53 +2/-1 dB (ref:1 V/ µbar at 1 kHz with 12 Vdc supply voltage and 470 ohm DC, 150 ohm AC load)

Matching Impedance: 50-600 ohms

Gain Adjustment Range: ± 5 dB (clockwise rotation increases gain)

Operating Voltage: (supplied by aircraft radio) 8-16 Vdc

Cordage:

Straight Y-cord, 9 ft (2.74 m)

Connectors:

Microphone Plug: PJ-068 or equivalent

Reciever Plug: PJ-055 or equivalent

DC Jack: 2.5mm Dia. Pin

Weight:

Effective Head Weight: Approximately 18.5 oz. (524 g)

Color: Lt. Grey/Purple

ORDERING INFORMATION

Stratus Headset, with electret mic, battery module, and carrying case .	Catalog no. 301125-000
Aircraft Power Cord	Catalog no. 550216-001
1” Foam-filled ear cushions (package of 2)	Catalog no. 800456-015
Headband Pad	Catalog no. 800456-017
Replacement electret microphone	Catalog no. 800136-000
Microphone windscreen (electret)	Catalog no. 800456-000
Clothing Clip	Catalog no. 590637-000
Zippered Pouch	Catalog no. 500266-000

LIMITED WARRANTY — VALID ONLY IN UNITED STATES AND CANADA

TELEX Communications, Inc. (“Telex”) warrants to the user, who originally purchased the product delivered with this card, that the product will be free from defects in material and workmanship for the following periods after such date of purchase: Material 36 months, workmanship 36 months. Telex will, at its option, repair or replace, free of charge, such defective products subject to the following conditions:

1. Delivery of the product or parts postage prepaid to the Telex dealer, authorized service facility or factory.
2. Determination by Telex that a defect exists and is covered by the limited warranty. Defects due to alteration, repair by an unauthorized person, insertion of non-Telex parts, misuse, accidental damage, use of the equipment for purposes other than those for which it was designed, and the like, are not covered by this limited warranty and repairs thereof will be subject to normal service charges.
3. Repairs and replacement parts are covered under this limited warranty only for the unexpired term of the original limited warranty.
4. Products purchased from unauthorized dealers are not warranted.
5. You must fill out and return the attached registration card within 10 days after such purchase or this limited warranty is void.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXTENDS BEYOND THE TERM HEREOF. THE REMEDIES PROVIDED BY THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON. NO PERSON HAS ANY AUTHORITY TO BIND TELEX TO ANY REPRESENTATION OR WARRANTY OTHER THAN THOSE PROVIDED BY THIS LIMITED WARRANTY. TELEX SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY FAILURE OR OTHERWISE OF THE PRODUCT.

Some states do not allow exclusions or limitations of incidental or consequential damages or limitations on how long an implied warranty lasts, so the limitations or exclusions herein may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CUSTOMER SERVICE

For information or technical assistance, call or write to Telex at:

Customer Service Department
Telex Communications, Inc.
12000 Portland Ave. So.
Burnsville, MN 55337 U.S.A.
(952) 884-4051

When returning equipment for repair, please enclose an explanation of the problem. And, if the equipment is covered under warranty, please enclose a copy of your proof of purchase. The equipment must be accompanied by documentation stating your name, return address, and telephone number.

Return equipment for factory repair to:

Customer Service Department
Telex Communications, Inc.
1720 East 14th St.
Glencoe, MN 55336 U.S.A.
(320) 864-3177

Warranty Repairs - If in warranty, no charge will be made for the repairs. Equipment being returned for warranty repair must be sent prepaid and will be returned prepaid.

Non-Warranty Repairs - Equipment that is not under warranty must be sent prepaid to Telex. If requested, an estimate of repair costs will be issued prior to service. Once your approval for repair, and repair of equipment is completed, the equipment will be returned on a collect basis. Collect charges may be avoided by sending a signed check for payment in full along with your signed estimate approval form (the estimate includes the shipping charge).

Notes

Notes

TELEX®

TELEX COMMUNICATIONS, INC. ● 12000 Portland Ave. S., Burnsville, MN 55337 U.S.A.

38110-073 Rev D 7/02